CENTRAL INTELLIGENCE AGENCY

INFORMATION REPORT

COUNTRY USSR/Germany (Soviet Zone)

DATE DISTR. 18 Jun 52

SUBJECT Soviet AAA and AT Firing Practice

50X1

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NO. OF ENCLS. 4 (LISTED BELOW) (A) 2 pages, (B) 2 pages, (C) and (D) 2 pages

DATE ACQUIRED

SUPPLEMENT TO REPORT NO.

DATE OF INFORMATION

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50X1 THIS IS UNEVALUATED INFORMATION

AAA Firing at Altengrabow

1. On or about 20 Jun 51 the three batteries of the 932d Sep AAA Bn, together with the battalion headquarters, went from Eisenach to the former German artillery range at Altengrabow (see Enclosure A) in order to demonstrate their firing proficiency against planes for a commission of officers of the Eighth Gds Army, GOFG, and the Moscow Ministry of Armed Forces. Until 1951 all 37-mm AAA units conducted firing at the Wustrow range.

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2. The battalion moved its 18 37-mm AA guns to the railroad station at Eisenach by prime movers which were also loaded with 37-mm fragmentation tracer ammunition. One supply truck, loaded with food, accompanied the battalion. In Eisenach the entire battalion entrained. Two 37-mm AA guns were loaded on each railroad flatcar. Some flatcars were loaded with one truck, and some larger ones carried two trucks. Some of the gun crews rode the cars on the alert with their 37-mm guns ready for immediate firing; one freight car was allotted for the EM of each battery (about 50 EM per car);

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50X1 one freight car was allotted for the officers of the three batteries; and one freight car was loaded with ammunition. five freight cars and about 22 flatcars were used. All personnel took along their small arms, gas masks and rucksacks.

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3. Officers took their bedding along on the trip. EM took only blankets and slept on the floors of the cars. There were 23 officers in the officer's car. The trip, which covered about 400 km, took about 30 hours. There were no accidents enroute.

4. At the Altengrabow range about 10 days were spent in the selection of gun emplacements. The range commander and his staff, (about four officers and 10 EM) who were not attached to any unit, but lived at the range the entire year, together with the CO and battery commanders of the 932d Sep AAA Bn, selected the gun emplacements. All guns were entrenched and camouflaged according to the combat instructions given in manuals. Telephone nets were established but no OP was set up since the staff of the range commander acted as observers.

5. The 932d Sep AAA Bn spent about 15 days at the Altengrabow range. Both officers and EM slept in tents with 12-15 EM in a six by three meter tent and two to five officers in the same size tent. Tents were spaced about three meters apart. The area had no baths, movies, or any recreational facilities. Personnel were fed from mobile field kitchens. Neither officers nor EM were permitted to leave the range area during the stay. Since the range is some distance from Altengrabow and not near villages,
50X1 there were no AWOLs.

6. At the end of June or early in July the inspection commission, consisting of a brigadier general as chairman, a colonel, a lieutenant colonel and several majors, arrived to inspect the firing pro-
50X1 ficiency of the units at the range. the commission was based in Potsdam. It was present during firing each day and left the range at the end of the day. Firing at the range was under the control of the range commander and his staff. Other unidentified AAA units fired at the range at the same time as
50X1 the 932d Sep AAA Bn for the benefit of the commission.

7. On the actual firing

(a) Firing was conducted on a sleeve five meters long and two meters in diameter which was towed by a US lend-lease B-26 aircraft from an unidentified base. The plane made about 20 trips (for each unit firing) over the firing zone which was about one half km long. Sometimes only one gun, and at times two, four or six guns were fired at the target by the 932d Sep AAA Bn, according to the firing schedule arranged by the range commander.

(b) Members of the range commander's staff observed the tracer fire with a battery commander's scope /Binokulyarnyy Iskatel - shown as figure 37, IX-27, TM 30-430/ which had been modified so that two persons could observe simultaneously. This scope was also equipped with a lighting device to permit night observation. A hit on the sleeve or within a radius of .05, as indicated on the reticle, for 50% of the rounds fired, was considered excellent. If 70% of all rounds were within a radius of .10, as indicated on the reticle, the fire was considered good. If 75% of all rounds were within a radius of .20 the fire was considered satisfactory. The central ring of the
50X1 reticle was marked .05; the next .10 and the largest .20.
/Enclosure (D) - sketch of the modified battery commander's scope./

(c) The range commander had a mobile 5-AK radio station /figures 78, 79 and 80, Ia-63, TM 30 4307 with which he maintained contact with the towing plane. Permanent telephone lines led to the firing positions from the place at which the 5-AK station was located; as the tow plane approached the firing zone the range commander or a member of his staff gave the order to the battery commander by telephone to prepare to fire. The actual order to fire was given by the battery commander after a control officer (one of the battery officers, either from the 932d Sep AAA Bn or any other AAA unit) gave the preparatory warning, "Target in firing zone."

(d) A safety officer, either a battery officer of the 932d Sep AAA Bn or some other AAA unit, had the function of ensuring that all guns fired at the sleeve and not at the aircraft.

(e) On the fire control staff there was a recording officer, usually a member of the battery which was firing. His duty was to enter the vertical and horizontal control settings, fire correction data, firing time used, and rounds used, in a special firing record book.

8. AAA firing was conducted according to eight different types of missions as follows:

(a) Mission #1 - aiming exercises; these were not demonstrated for the inspecting commission.

(b) Mission #2 - one emplaced 37-mm gun fires, in 10 seconds, 12 tracer fragmentation rounds at a sleeve towed by a B-26 plane at 2400 m altitude at about 300 km per hour.

(c) Mission #3 - night firing; not demonstrated for the inspecting commission.

(d) Mission #4 - six 37-mm AA guns, an entire battery, fire 12 tracer fragmentation rounds each, in 20 seconds, at a sleeve towed by a B-26 at 2600 m altitude at about 300 km per hour.

(e) Mission #5 - one 37-mm gun on the move, still hooked to its prime mover, fires 10 tracer fragmentation rounds in 10 seconds at a sleeve towed by a B-26 at 1600 m altitude at about 300 km per hour.

(f) Mission #6 - an aircraft, flying at about 2500 m altitude drops a cloth dummy representing a dive bomber and one 37-mm AA gun fires eight tracer fragmentation rounds at the dummy in 10 seconds; the firing must be completed before the dummy has reached an 800 m altitude. The dummy is made of cloth, is about two by one meter in size; when dropped, it fills with air and an attached weight causes it to lose altitude rapidly.

(g) Mission #7 - two 37-mm AA guns fire eight tracer fragmentation rounds each, in 10 seconds, at a sleeve towed by a plane flying at 2400 m altitude at a speed of 300 km per hour.

(h) Mission #8 - two 37-mm AA guns fire 10 tracer fragmentation rounds each, in 20 seconds, at a dummy (described in Mission #6) representing a dive bomber. The dummy is ejected from a plane at 2500 m altitude. All shots must be fired while the dummy is between 1800 m and 800 m above the ground. 50X1

9. On the results of firing

(a) In 1950 there was one direct hit on a sleeve when the 932d Sep AAA Battery practiced firing. 50X1 no direct hits on the sleeve during the firing in 1951.

(b) No other fire control instruments, such as gunlaying radar or automatic locators and computers, were used during these AAA firing exercises by the 932d Sep AAA Bn 50X1 or other 37-mm AAA units.

(c) The inspecting commission reported that the firing of the 932d AAA Bn in 1951 was good. 50X1

50X1 (d) firing at the range by unidentified units using 12.7 AA MGs. Firing was conducted at towed sleeves and no 50X1 lead or trail was allowed for. Instead, the front of the 50X1 target was sighted at through the ring-type sight of these 50X1 MGs.

There were no direct hits on the sleeve, and I believe that the overall score was satisfactory. 50X1

(e) no malfunctions of ammunition or accidents on the range while the 932d Sep AAA Bn participated in the firing.

10. The 932d Sep AAA Bn fired for one half hour on two separate days in order to complete all of its firing missions. Some missions were repeated for the benefit of the inspection commission, and thus there was a total expenditure of about 200 rounds. If no missions had been repeated the entire firing of the 932d Sep AAA Bn would have required 138 rounds.

11. When the 932d Sep AAA Bn returned to Eisenach about 5 July no men or equipment were left in Altengrabow. The return move was by train with loading approximately as described for the move to the range. No accidents occurred on this trip. /Enclosure (A) shows the location of Altengrabow range, the tent area, the headquarters of the range, former German artillery depots and a German ammunition factory which at present is making an unknown amount of unknown artillery ammunition for the Soviets./

AT Firing at Ohrdruf

12. In February 1951 two 37-mm AA guns of each battery of the 932d Sep AAA Bn went to the Ohrdruf range, about 80 km from the home station at Naumburg, for 15 days of AT firing. (See Enclosure (B).) The headquarters of the battalion, myself included, accompanied these guns. About 60 officers and EM comprised the personnel who made the trip to the Ohrdruf range. Two freight cars, one for EM and one for officers, were used to transport the personnel. The ammunition (amount unknown) was loaded into the prime movers. Two guns were loaded on each flatcar, one prime mover was loaded on each flatcar, and one prime mover and the field kitchen were loaded on a flatcar. Thus the unit with equipment was moved in two freight cars and ten flatcars. Officers and EM both had full field equipment (gas masks, small arms, mess gears, etc). The
50X1 three hour trip was free of accidents.

13. [redacted] details on the range and personnel living there:

(a) Lt Col Nikitin, (unit unknown) the Ohrdruf range commander and his staff, two officers and some EM, were located at the range permanently and took charge of all firing done by various units. At the same time that the 932d Sep AAA Bn fired at the range other units (unidentified) also conducted firing.

(b) The range was about four kilometers square and contained no installations. Previously the range had been used by German artillery units. The Soviets used it only for 37-mm AT/AA firing.

(c) Personnel at the range lived in six by three meter tents with 12 EM per tent or two to four officers per tent. The range had no bathing or recreational facilities. All personnel at the range were fed from mobile field kitchens. Each battery
50X1 provided its own security guard during the night.

14. On the actual firing and its results [redacted]

(a) Tank firing was under the overall control of the range commander, who directed firing by telephone from his headquarters. Actual firing supervision was exercised by the battery commander, but firing commands were given by the NCO gun crew commanders. An officer acted as the recorder for fire correction data, firing times and ammunition expended; there were no control or safety officers such as are used in AAA firing.

(b) During firing, each gun fired individually at target tanks, and was allotted six tracer fragmentation rounds for each day of firing. Targets for the guns were dummy wooden tanks towed on long ropes; new dummy tanks were used each time after a gun had finished firing. Two dummy tanks approached each gun from different angles with a beginning range of 1200 to 1500 m. Firing was commenced as the tanks, moving at 30 km per hour, had approached to within 800 m. Two hits on each tank was considered excellent marksmanship; two hits on one tank and one hit on the other was considered good marksmanship; one hit on each tank was considered satisfactory; and any other score, even if a gun hit one tank three times and one not at all, was considered poor. Results were checked by the range commander or his staff.

50X1

(c) Only two of the 15 days which the 932d Sep AAA Bn spent at the range were used in firing. All six guns of the battalion at the range used a total of 50 rounds. Actually the entire allotment for firing was 36 rounds, but some guns used 12 rounds altogether because they repeated their firing mission.

(d) In 1949 the winter firing results of the battalion were considered unsatisfactory, but in 1950 and 1951 the firing results were considered good.

15. The return of the battalion to Naumburg was by train, with approximately the same loading arrangements as those for the outward trip, and was free of accidents.

Summer AAA Firing at Ohrdruf

16. In June 1951 the batteries of the 932d Sep AAA Bn conducted their AAA firing on the Ohrdruf range. The batteries, each with six 37-mm AA guns, six prime movers (3-ton Studebakers) and one supply truck, spent 10 days each at the range in rotation. As each battery moved to the range from Eisenach, by organic transportation, a distance of 26 km, all personnel carried their
50X1 full field equipment (small arms, gas masks, rucksacks, mess
50X1 gear, etc). [redacted]. The battery of the 932d Sep AAA Bn stationed in Weissenfels also took part in the firing.

17. At the range, (see Enclosure B), the troops lived in tents. No recreation was provided in the area, but troops were permitted to go to the military compound in Ohrdruf by truck while
50X1 escorted by officers. Both officers and EM lived on the range during the firing training period.

18. On the actual firing [redacted]

(a) AAA firing was conducted only during good weather: each battery fired two or three missions (see paragraph 8) on each of two or three days of the ten day period. Overall control of the firing was exercised by the range commander and his staff, and marksmanship observation was also performed by the range commander and his staff. Battery commanders supervised firing and were assisted by a recording officer, a safety officer, and a control officer (see paragraph 7 above).

(b) Firing orders were given by the NCO gun crew commander and the range commander, or members of his staff, observed results through battery commander's scopes from behind the guns being fired. The range commander directed fire from his radio station by telephone.

(c) Actual firing time for each mission was between 10 and 20 seconds, and the B-26 tow plane (home station unknown) flew over the designated firing area, about 1.5 km long, about 20 times to give all guns of all firing batteries an opportunity to fire.

50X1

(d) Only 37-mm AA guns fired AA missions at the Ohrdruf range but occasionally as many as 20 batteries, including the 932d Sep AAA Bn and unidentified units, were set up for firing with guns emplaced at intervals of 10 m. At times many batteries fired their missions at the same time. /Enclosure (C) gives an example of a typical AAA firing order.

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-end-

Enclosure (A): Altengrabow AAA Range with Legend
(B): Ohrdruf AA/AT Range with Legend
(C): Example AAA Firing Order, 932d Sep AAA Bn
(D): Modified Battery Commander's Scope for Use in AAA Firing with Legend

ENCLOSURE (A)
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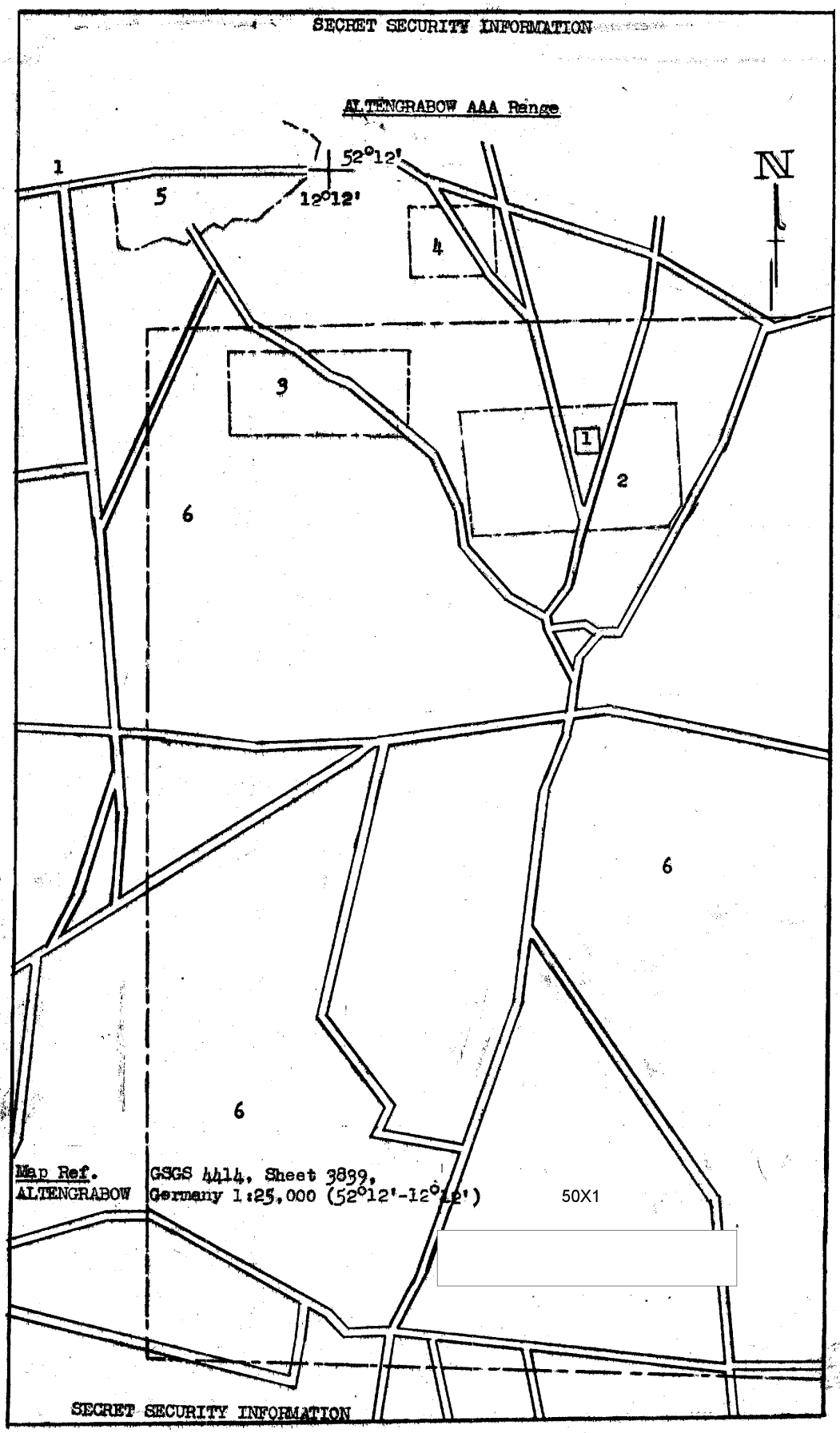
SECRET SECURITY INFORMATION

50X1

ALTENGRABOW AAA Range



Map Ref. ALTENGRABOW — GSGS 4414, Sheet 3839, Germany 1:25,000 (52°12'-12°12')

50X1

SECRET SECURITY INFORMATION

50X1

ALTENGRABOW AAA Range

Legend:

1. Site of 5-AK mobile receiver-transmitter station

2. Firing positions of three batteries of the 932d Sep AAA Bn and other U/i AAA units. AAA guns were close together, at about 10 m intervals, in line, entrenched and camouflaged. There was no additional spacing between batteries.

3. Tent area for officers and EM of 932d Sep AAA Bn - not fenced in, but guarded constantly.

50X1 4. [redacted] there is a large amount of German artillery ammunition located here in underground installations: these have not been removed or exploded due to the danger involved. [redacted] there are booby traps and trip mines underground here. Area is fenced off and is guarded 24 hours per day by sentries.

50X1 Near this area [redacted] is a former German artillery ammunition factory, which, at the present time, produces an unknown 50X1 amount of artillery ammunition for the Soviet Army. [redacted] the factory is shown on Soviet-made maps of the area.

50X1

5. ALTENGRABOW (5212N-1212E)

6. Overall artillery renge area - about six km square - no permanent units or installations in the area.

50X1

Note: [redacted] the Soviet Army has good maps of this area, showing the exact location of the German ammunition factory and other landmarks which are not shown on maps available to the interrogator.

50X1 [redacted]

ENCLOSURE (B)
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SECRET SECURITY INFORMATION

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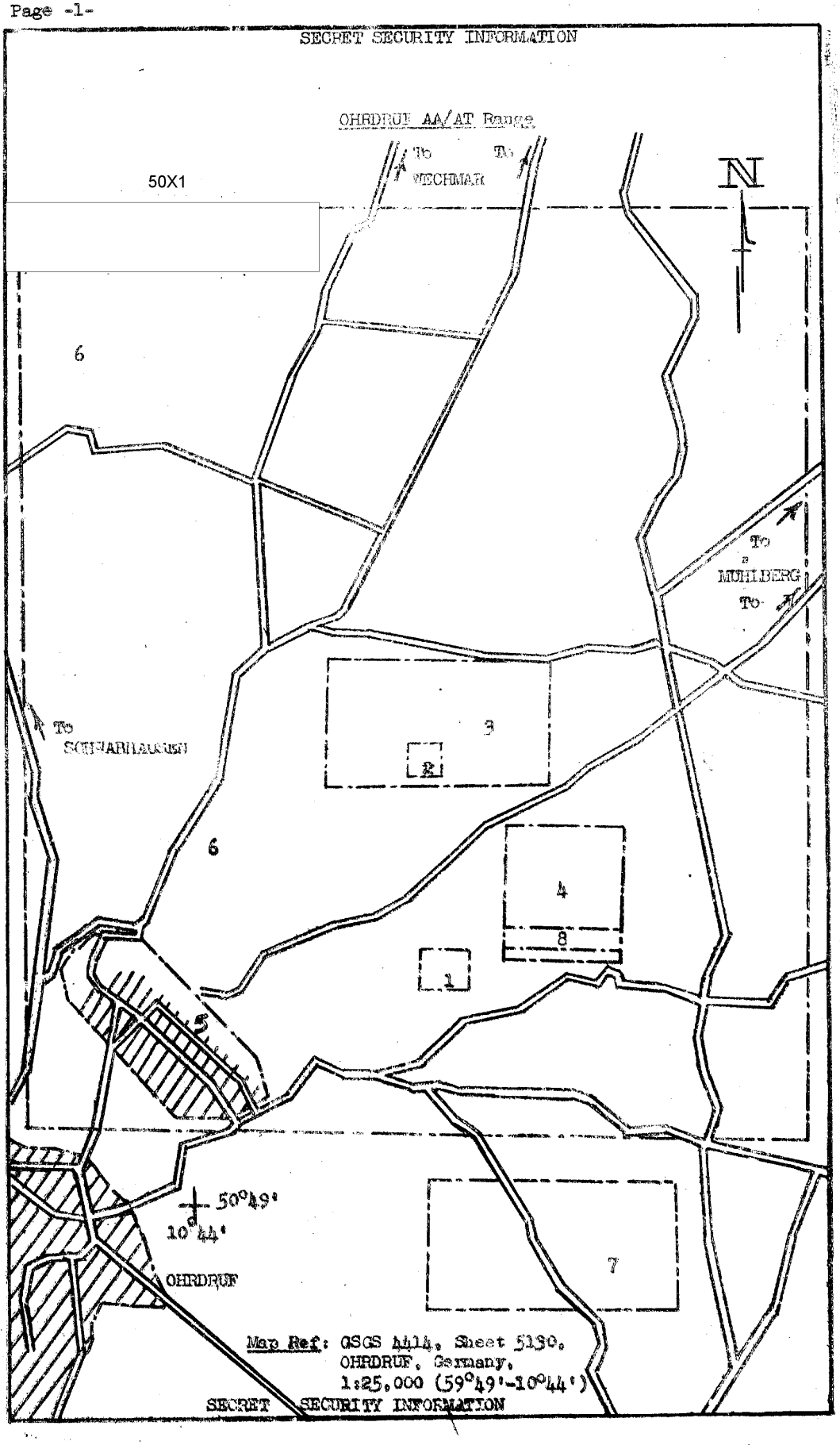
OHRDRUF AA/AT Range

50X1



Map Ref: GSGS 4414, Sheet 5130,
OHRDRUF, Germany,
1:25,000 (59°49'-10°44')

SECRET SECURITY INFORMATION

OHRDRUF AA/AT Range

Legend

1. Two story brick building about 20 x 10 m - permanent billets of the range commander
2. Location of the mobile 5-AK receiver-transmitter station
3. AA firing area for the 932d Sep AAA Bn
4. AT firing area for the 932d Sep AAA Bn
5. OHRDRUF military compound
6. OHRDRUF range - about four km square
7. Tent area for units firing AA missions at the range - about one x one and one-half km in area - not fenced off but guarded 24 hours per day
8. Tent area for units firing AT missions at the range

50X1

ENCLOSURE (C)

SECRET SECURITY INFORMATION

Example AAA Firing Order, 932d Sep AAA Bn

SECRET
Copy No. _____

BATTLE ORDER NO. 01, PERTAINING TO DELIVERY OF FIRE FOR HQ, 932d SEPARATE AAA BN, NAUMBURG, 1600 hours 21 Jul 51. Map 1:50,000, 1948

1. By order of the commander of the 29th AA sub-group (Note: meaning all AA units of the 29th Gds Rifle Corps), units will fire on all types of aircraft with the exception of single observation planes.

Note: Soviet AAA does not fire on observation craft in order to preserve the secrecy of its positions.

2. Fire will be opened at intermediate distances on the approach of targets to the objects being defended.

Note: Intermediate distances are from two to two and one-half km.

3. Fire on ground attack aircraft and dive bombers will consist of massed fire from all types of guns by long, unbroken salvoes which will continue until the target is destroyed.

4. Fire on parachute troops will be conducted during the descent and will not await the landing of these troops.

5. At night units will use barrage fire according to instructions and commands issued by the battalion CP.

6. When friendly aircraft enter the zone of AA fire or when they engage in combat with enemy aircraft our AA artillery will cease fire; however the AA artillery will continue to track the enemy craft in order to fire upon them without endangering our craft. When our aircraft pursue enemy aircraft, our AA will engage in interdiction fire.

7. Unit commanders are categorically forbidden to fire at the tail fuselage of aircraft.

8. Targets will be chosen at discretion according to the importance of the target; particular attention will be given to dive bombers and ground attack planes.

9. The signal for friendly planes is as follows: basically two or three left banks; alternately a green flare. The signal for friendly troops is two red flares. Signals are changed each day at 2400, MOSCOW time.

Commander, 932d Sep AAA Bn
Lt Col /IVANOV/

Executive officer, 932d Sep AAA Bn
Maj /MITYUSHIN/

Prepared in four copies
Copy 1 to file
Copies 2 through 4 to subordinate units
Written by MITYUSHIN
Distributed by IVANOV
Officers record book #34, pages 45-46

SECRET SECURITY INFORMATION

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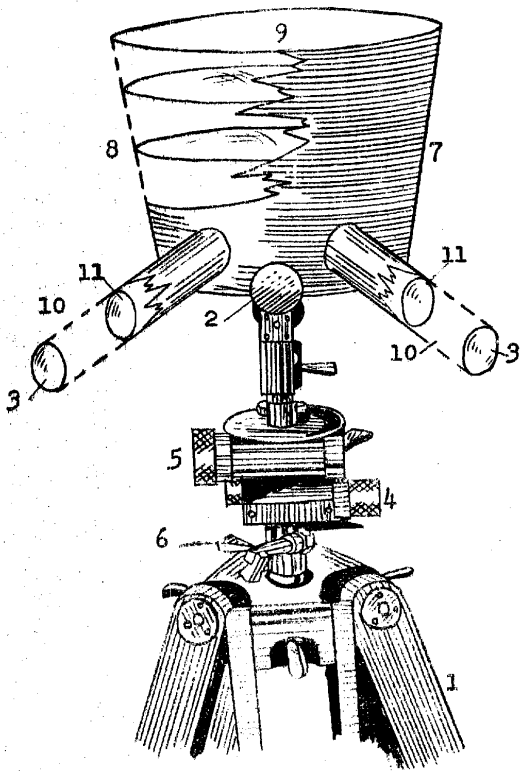
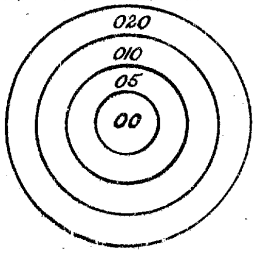
SECRET SECURITY INFORMATION

Modified Battery Commander's Scope for Use in AAA Firing

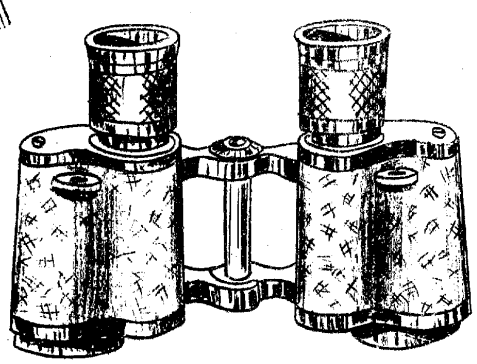




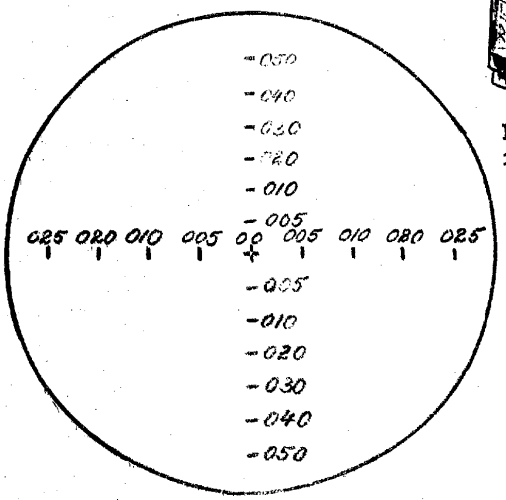
Scope Reticle Pattern

Legend

1. Tripod
2. Tipping hinge
3. Eyepieces
4. Azimuth adjustment
5. Elevation adjustment
6. Locking nut to allow free traverse
7. Housing containing prisms, lenses, filters, etc.
8. Prisms, lenses, etc.
9. Objective (compound lens)
10. Eyepieces
11. Reticle



Binocular containing reticle pattern for use in AAA fire observation



Binocular reticle pattern

SECRET SECURITY INFORMATION

SECRET SECURITY INFORMATION

Modified Battery Commander's Scope for Use in AAA Firing

Legend:

The battery commander's scope, as modified for AAA fire observation, is stored in a wooden box about 20 inches high and 18 x 12 inches in size.

In use the scope is mounted on the standard tripod (1, Enclosure D) shown in TM 30-430, IX-28, figure 37.

A locking wing nut (6, Enclosure D) permits rapid traverse of the tripod head to permit tracking.

A tipping hinge (2, Enclosure D) permits 360 degree traverse of the azimuth adjustment (4, Enclosure D), and (plus) 85 degree elevation and (minus) 10 degree depression of the elevation adjustment (5, Enclosure D).

The eyepieces (10, Enclosure D) are approximately at right angles to one another, can be folded (hinged?) inside the wooden carrying case, and enable two men to observe fire simultaneously. Usually a reconnaissance man uses one eyepiece and tracks an aircraft and the battery commander uses the other eyepiece for fire observation. The eyepieces each contain a reticle (11, Enclosure D) for determining the accuracy of fire.

The observation of shellbursts shows in which ring a round bursts and the scoring is referred to by AAA gunners as: "Burst in 05 ring (excellent shooting," or "in 020 ring (satisfactory shooting)." No mils are used in Soviet artillery fire.

50X1 [redacted] the housing (one side of which is covered with metal) contains lenses, prisms, and has a main objective at its upper end.
50X1 [redacted] the field of view is from 1½ to 2 km at an altitude of from 800 to 3000 m
50X1 (Note: [redacted]
50X1 [redacted]
50X1 [redacted]
50X1 [redacted] the scope has been used by Soviet AAA units since 1941 and has been used constantly since without changes. It is similar to the battery commander's scope as shown in figure 37, IX-28, TM 30-430.

Binoculars

The plain B-1 binoculars, shown in figure 41, IX-30, TM 30-430, are also used for AAA observation but have the disadvantage of being relatively unstable. A sketch of these binoculars, and their reticle pattern, is shown on Enclosure D.

SECRET SECURITY INFORMATION